

G. *Nov 8* *received* *with 188*
Discharge
AN INAUGURAL ESSAY

Passed March 1828

ON

ANEURISM;

for the

Degree

of

DOCTOR OF MEDICINE,

in the

UNIVERSITY OF PENNSYLVANIA;

By

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of

PENNSYLVANIA

Philadelphia.

Nov. 1827.

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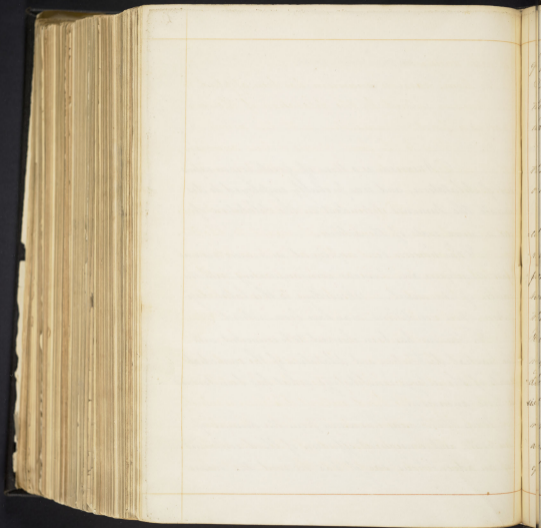
1881

Aneurism is a term of greek origin expressive of dilatation, and was probably employed to designate the tumours dependent on the dilatation of one or more coats of the arteries.

It has however been employed in a more general sense signifying any tumour communicating with the cavity of the vessel. According to this latter definition, three conditions may have been noticed.

The tumour has been observed to be connected with the partial destruction and dilatation of the immediate coats of the artery, constituting what has been termed a true aneurism.

When the tumour has arisen from the division of the coats, and consequent effusion of blood contained in an adventitious sac, it has received the name

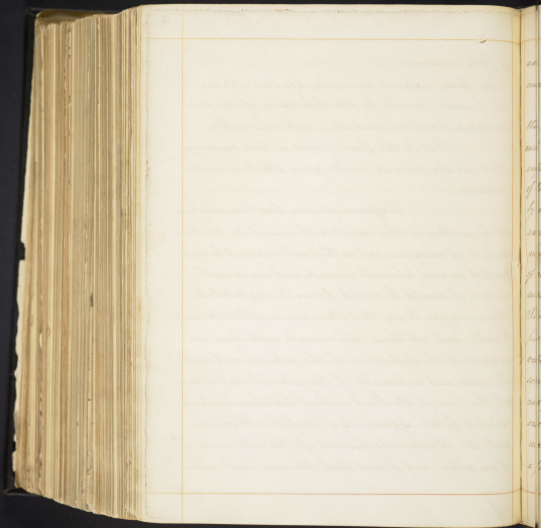


of false aneurism.

The term, varicose aneurism has been applied to the tumour formed by the dilatation of the vein, having a direct communication with the artery.

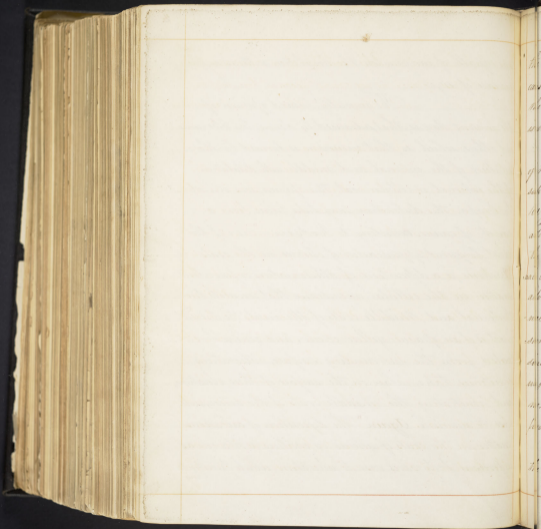
It is to the first species, or true aneurism, that we beg leave to invite your attention on this occasion.

Different opinions have been entertained by writers on this subject, with regard to the formation of aneurism, and, as they all appear to be supported on very plausible grounds, and are so well known, it would be useless for us to recapitulate them;— suffice to say that the opinions of Dr. William Hunter, and all those who coincide with him, in regard to the distinction of the external and middle coats, and an inability of the internal coat to resist the force of the blood without dilatation is entirely supported by the experiments of Mr John Hunter and Mr Home, who dissected off the outer coats of an artery, and found that the inner coat alone



was capable of carrying on the circulation without any increase of size.

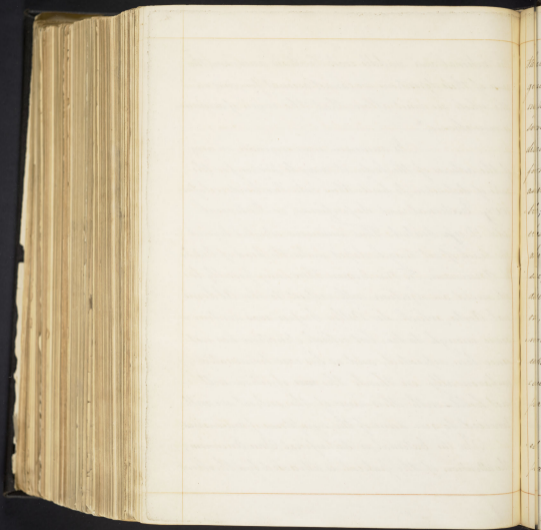
The generally received opinion of the present day is, that advanced by John Hunter and others; which is, that aneurism is formed by the rupture of the internal and middle with dilatation of the external or cellular coat. This opinion was revived by Scarpa. This destruction may take place from a variety of causes. According to Wedgson, "one of the most frequent appearances of disease, in the coats of arteries, is a deposition of albuminous or purulent matter in the cellular membrane that connects the External and Middle coats of the vessel, the diseased part is of an opaque yellow colour, and generally elevated from the surrounding surface. Ulcerations sometimes take place on the surface of these elevations, and penetrating the Middle coats of the artery, give rise to aneurism." Again "The deposition of calcareous matter in the coats of arteries by exciting irritation as a foreign body gives rise to ulceration, which penetrates



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the internal and middle coats produces aneurism, the cause of these affections we cannot account for, and on the whole we must allow that the origin of aneurism is very obscure."

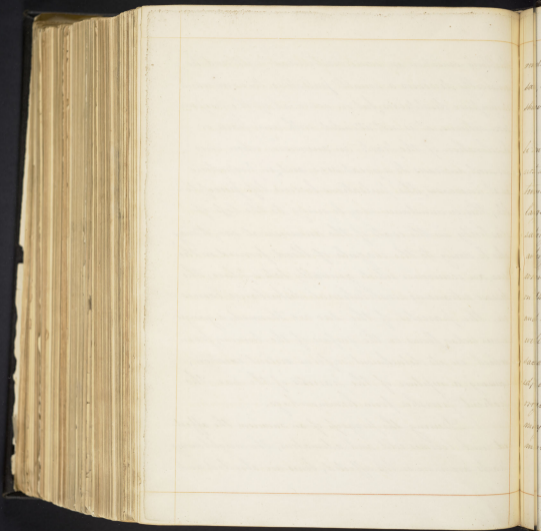
As aneurism may originate in any of the arteries of the body, it may be proper, for the sake of distinction, to divide them into two kinds or classes, viz. External and Superficial, or Internal and Deep seated. Thus aneurisms situated beyond the reach of art may be classed under the head of Internal Aneurism. To this division there may possibly be advanced an objection with respect to the Abdominal Aorta, which Sir Astley Cooper was accurate enough to try; but which operation has not since been repeated, and as his case terminated unfavorably we think the ~~same~~ objection will not hold - with this view of the subject we will proceed to give some of the symptoms of aneurisms.

In the External, or Superficial True Aneurism, the attention of the patient is attracted by a throbbing



throbbing sensation in some particular part, and he generally discovers a small pulsating tumour, which in simple dislocation, but on removal of the dislocation returns, it is not attended with any pain or discoloration of the part: an aneurism when once formed, increases to a great size, and in proportion as it increases, the pulsations become less perceptible; this circumstance may be owing to the loss of elasticity in the coats of the aneurismal sac, it may also be owing to the coagula of blood formed in the sac, an occurrence which generally takes place; the disease advancing constitutional disturbance comes on, the parietes of the sac are thinned, a gangrenous scab forms on the surface of the tumour, from which on its detachment, or from violent exertion, causing a rupture of the parietes of the sac, the patient perishes from hemorrhage.

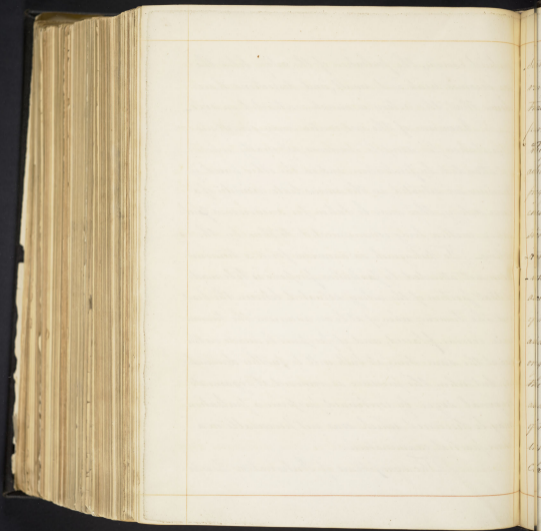
During the progress of an aneurism the affected limb becomes cold and adematous, the neighbouring parts are more or less affected, bones are absorbed and



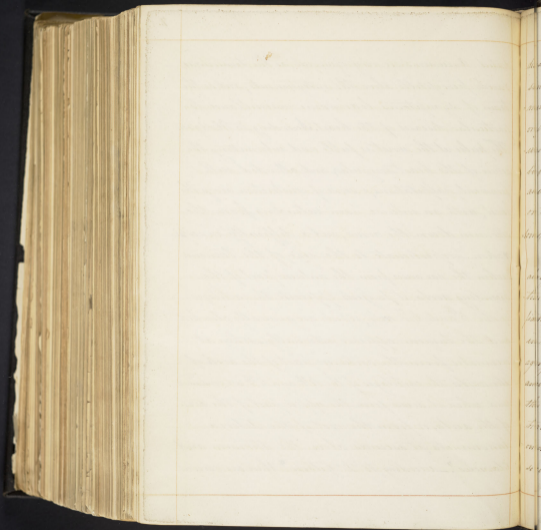
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undred canons, the pulsation of the artery, below the
sac, becomes weak and small, and dissections have
shown that the artery is much contracted in size.

Aneurism of the extremities may sometimes
be mistaken for simple tumours, especially when
not attended by pulsation, and on the other hand, if
tumours are situated in the immediate vicinity of a
large artery, they may be taken for aneurisms. Pul-
sation when being communicated to them by the
artery. To distinguish an aneurism from a tumour
when not attended by pulsation, pressure is to be made
in that portion of the artery situated between the heart
and the tumour, when, if it be an aneurism the tumour
will become flaccid, and if pressure be made on the
sac, at the same time, its bulk will be further dimin-
ish, but when the pressure is removed it regains its
original size. By continued pressure a pulsation
may be discovered which was not perceivable on a
mere partial examination.

The symptoms of Internal or Deep

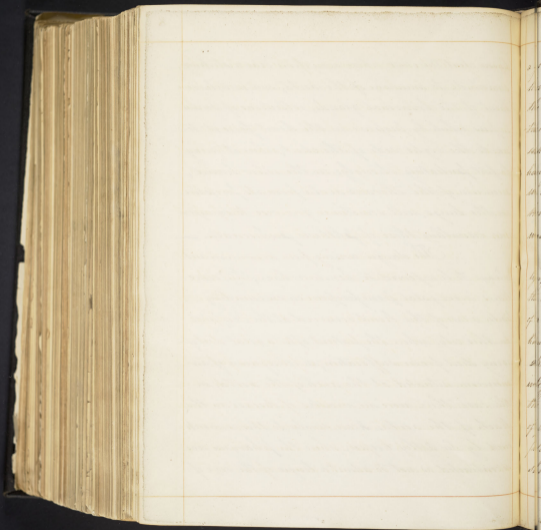


stated. Anomalous are very equivocal, as the tumour is
 rarely perceptible above the integuments, and as the
 train of symptoms bear some resemblance to
 particular diseases of the heart. According to Hodgson
 The pulse at the wrist is full and intermitting, the
 action of the heart irregular, and attended with
 frequent palpitations, a sense of constriction across the
 chest, with an extensive pain extending from the
 sternum down the arms, and a difficulty in respi-
 ration proportionate to the size of the tumour.
 When the sac arises from the anterior part of the
 ascending aorta it projects opposite the cartilages
 of the 5th and 6th ribs, which are generally absorbed,
 and the tumour appears externally, when it
 originates from the anterior part of the arch of
 the aorta the cartilages of the 4th and 6th are consumed,
 and when it arises from the upper part of the arch
 of the aorta, or from the root of the Arteria
 innominata, it ascends above the sternum and
 Clavicles?—According to L. Gibson "there are several



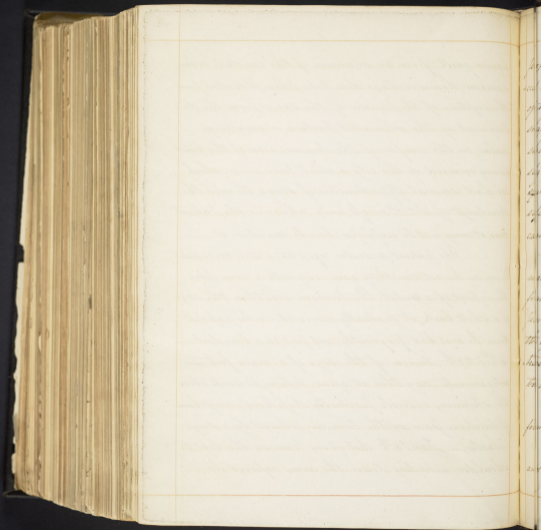
disease about the chest, whose symptoms bear a striking
 similitude to aneurism of the aorta, such as enlarge-
 ment of the bronchial glands, collections of serum
 or pus which by pressure on the heart force it to
 the right side of the chest, where it may
 be felt pulsating strongly; on the other hand,
 aneurism of the thoracic aorta from its pressure
 on the lungs, will sometimes give rise to symp-
 toms, resembling those of *phthisis pulmonalis*. —

The danger arising from aneurism is not
 always to be referred to hemorrhage, this some-
 times proves fatal from pressure on surrounding
 parts; a case of this kind occurred at the Hospital
 in this city, where the patient after a great deal of
 agony died from suffocation, in consequence of an
 aneurism situated at the arch of the aorta; in
 this case there were no marks of disease in the
 back of the aorta. A case similar to this is men-
 tioned by Sir Astley Cooper, where the pharynx was
 so contracted as not to admit a tongue of the size of



a goose quill, from an aneurism of the carotid; when, however, hemorrhage does take place, it is either from the rupture of the parietes of the sac, or from the detachment of the ulcerated portion, or gangrenous scab, on the surface of the tumour: a case of this kind having occurred in this city, a short time since, which we had several opportunities of seeing, through the kindness of Dr. Blair, to whose care the patient was, it may not be improper here to mention it.

The patient, a sailor, aged 46, states, that whilst lying in his cot, something gave way with a noise like the report of a pistol, the tumour was then the size of a shell bark, it gradually increased, on his passage home he was bled frequently, and put on a low diet, — Nov 29th tumour of the size of a mans fist, — integuments very thin at apex, tumour presents above the sternum, clavicle partially displaced, complains of stitching pain in the tumour, relieved by a scap plaster, — Jan 18th distressing pain in the left shoulder extending down the arm, referred to

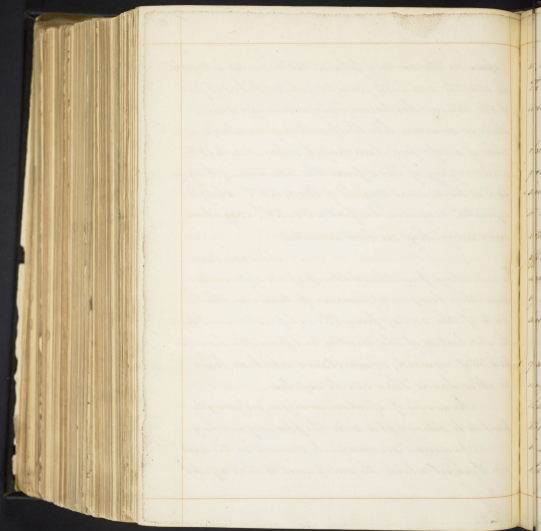


pressure on the axillary Artery. 26th needles introduced into the arm with perfect relief. July 18th part of the tumour has become tense, assuming a conical shape or eminence like the pointing of an abscess, - skin of a soft feel, dark, livid colour. March 13th slight oozing of blood from the ulceration. 15th oozing, spots at times small coagula of blood. 23rd though separated, coagulum has protruded. 28th coagulum came away, died in two minutes.

The above case is interesting, from the suddenness of its appearance, from there being no appearance of disease in other parts of the artery, from the relief experienced by the application of the needles, and from the hæmorrhages that occurred; circumstances which we leave to able hands than ours to explain.

Aneurisms of spontaneous origin, are generally found to be situated at or near the flexure of an artery.

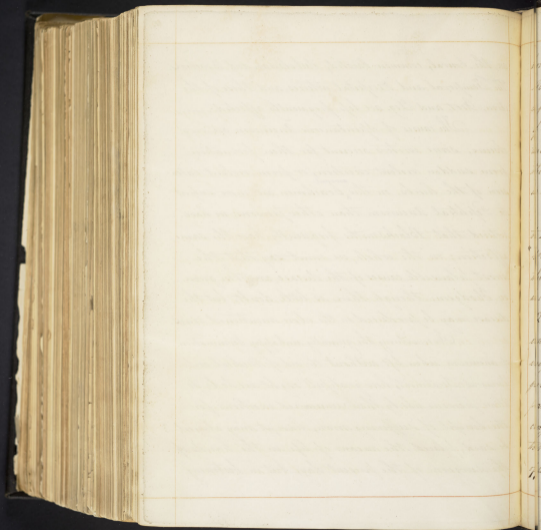
Aneurisms are exceedingly common in the aorta and Subclavian arteries, the vessels next to them affected,



are, the basilar, common carotid, subclavian and Brachio C.
The Temporal and Occipital arteries, and those of the
Arm, Foot, and Leg, are less frequently affected. —

The causes of spontaneous Anæmia are very
obscure, some writers account for their formation
from sudden violent exertion, or from violent exten-
sion of the limbs, in this ^{account} Coachmen are more subject
to Spinal Anæmia than other persons; we have
noticed that Blacksmiths frequently have the same
affection; in the whole, we must say that the
most plausible causes of the disease, are those given
by Hodgkins; though there is little doubt, but the
disease may be produced in the above mentioned ways.

On considering the generally unhappy termination
of anæmia when left without the aid of Medical or
Surgical Treatment, here gratefull ought we to be to
those persons who by their unwearied exertions for
the benefit of suffering man, have, it may almost
be said, placed the means of life in the hands of
the surgeons of the present day; but in bestowing

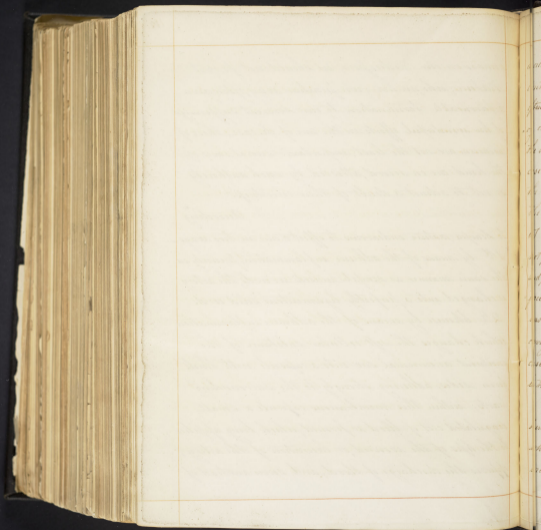


homage on our benefactors, we should not forget Nature, who, in her own peculiar way, often gives a favorable termination to our severest sufferings. Of her wonderful efforts in the cure of disease, those of aneurism are not the least important: several cases of the kind are on record, attested by such authority as not to admit a doubt of their correctness.

According

to Sharpe, nature endeavours to effect a cure in two ways—
1st by means of the adhesive inflammation, precisely in the same manner as simple incised wounds, the artery is changed into a perfectly ligamentous solid cord.

2^d likewise by means of the adhesive inflammation which changes the soft cellular substance of the incident aneurismal sac into a capsule with thick firm sides, adhering strongly to the surrounding parts, within this membranous capsule a small coagulated clot of blood is formed, which being applied to the lips of the wound, or laceration of the artery, opposes the discharge of blood, and cures instead of



a cicatrization of the artery, the canal of which continues pervious as before." Spontaneous cures are often effected by the pressure of the tumour on the artery communicating with the sac; this happens when the disease is situated near a bone, a very interesting case is recorded by Dr. Parrish which occurred in the Hospital under the care of Dr. Physick where the tumour was situated between the artery and St. Femoris, as the sac increased in size, it could not pass in a posterior direction it projected forward, and putting the artery on the stretch, its internal surface was brought in contact, adhesion inflammation was the consequence, and for the space of 4 inches the cavity of this important vessel was closed, Another case is recorded by Dr. Maffey, an account of which is to be found in the E. Repository vol 8th 1824

We might enumerate numerous other cases of the kind, but as they are rare in comparison with those which require an operation for their radical cure, we will proceed to give some account of the treatment

1. The first of these is the fact that the
the world is not a uniform whole, but
is divided into many different parts,
each of which has its own peculiar
character and history. This is true of
the physical world, as well as of the
moral and political world. The
different parts of the world are
not only separated from each other
by physical barriers, but also by
differences in language, customs,
and religion. These differences
have led to the development of
many different civilizations, each
of which has its own unique
contributions to the world.

employed for the cure of aneurism, and first of
the Medical Treatment:

This is more particularly applicable to Internal or Deep-seated Aneurism, and several modes of treatment have been adopted by Surgeons; the most useful of which appears to consist in Bleeding frequently repeated, Low Diet, internal use of Digitalis with a view of lessening the force of the circulation, Rest and Opium.

There is not always much benefit to be expected from these means; though there is reason to believe that the rapid termination of the disease may in some instances be retarded, and in some instances a perfect cure may have been effected, we have the Authority of Pelletan, Guetham, Wasalea, and others to this effect. — No doubt in some cases this plan of treatment may be employed with propriety; but we think in the external or true Sigmoidal aneurism much more dependance is to be placed on the Surgical Treatment. According to

